

WHAT IS CLAIMED IS:

1. A method of transmitting data rate control (DRC) information to an access network (AN) transmitting packet data for a first transmission period having a plurality of slots in order to request a data rate for packet data to be transmitted by the AN for a second transmission period after the first transmission period in an access terminal (AT) of a mobile telecommunication system, comprising the steps of:

receiving a DRC request indicator (DRI) bit in a predetermined slot before a last slot of the first transmission period; and

generating the DRC information in response to the DRI bit and transmitting the DRC information to the AN.

2. The method of claim 1, wherein the predetermined slot is at least two slots before the last slot.

3. The method of claim 2, wherein the predetermined slot is a first slot from the last slot and the last slot.

4. An access terminal (AT) for transmitting data rate control (DRC) information to an access network (AN) transmitting packet data for a first transmission period having a plurality of slots according to a requested data rate in order to request a data rate for packet data to be transmitted by the AN for a second transmission period after the first transmission period in a mobile telecommunication system, comprising:

a receiver for receiving a DRC request indicator (DRI) bit in a predetermined

slot before a last slot of the first transmission period; and

a transmitter for selectively transmitting the DRC information according to the DRI bit to the AN.

5 5. The AT of claim 4 , wherein the predetermined slot is at least two slots before the last slot.

6. The AT of claim 4, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

7. The AT of claim 4, wherein the transmitter comprises a selector for receiving the DRC information and selectively outputting the DRC information according to the DRI bit, and a spreader for spreading the output of the selector with a predetermined orthogonal code.

15 8. A method of controlling transmission of data rate control (DRC) information from an access terminal (AT) that requests a data rate for packet data in an access network (AN) that transmits the packet data at the requested data rate in a mobile telecommunication system, comprising the steps of:

20 checking a last slot of a first transmission period having a plurality of slots when the AN transmits the packet data to the AT for the first transmission period; and

transmitting a DRC request indicator (DRI) bit to the AT in a predetermined slot before the last slot to request DRC information to be used for a second transmission period after the first transmission period to the AT.

9. The method of claim 8, wherein the predetermined slot is at least two slots before the last slot.

5 10. The method of claim 8, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

11. An access network (AN) for transmitting packet data at a requested data rate to an access terminal (AT) and controlling transmission of DRC information from the AT that requests the data rate for the packet data in a mobile telecommunication system, comprising:

a controller for checking a last slot of a first transmission period having a plurality of slots when the AN transmits the packet data to the AT for the first transmission period; and

15 a transmitter for transmitting a DRC request indicator (DRI) bit to the AT in a predetermined slot before the last slot to request DRC information to be used for a second transmission period after the first transmission period to the AT.

12. The AN of claim 11, wherein the predetermined slot is at least two slots before the last slot.

13. The AN of claim 11, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

14. The AN of claim 11, further comprising a spreader for spreading the DRI bit with a predetermined orthogonal code.

15. A mobile telecommunication system comprising:

5 an access network (AN) for transmitting packet data for a first transmission period having a plurality of slots according to a requested data rate and transmitting a DRC request indicator (DRI) bit in a predetermined slot before a last slot of the first transmission period; and

an access terminal (AT) for selectively transmitting data rate control (DRC) information to the AN according to the DRI bit to request a data rate for packet data to be received for a second transmission period after the first transmission period.

16. The mobile telecommunication system of claim 15, wherein the AT comprises a receiver for receiving the DRI bit from the AN and a transmitter for
15 selectively transmitting the DRC information to the AN according to the DRI bit.

17. The mobile telecommunication system of claim 16, wherein the transmitter comprises a selector for receiving the DRC information and selectively outputting the DRC information according to the DRI bit, and a spreader for spreading
20 the output of the selector with a predetermined orthogonal code.

18. The mobile telecommunication system of claim 15, wherein the AN comprises a controller for checking the last slot of the first transmission period when the AN transmits the packet data to the AT for the first transmission period, and a

transmitter for transmitting the DRI bit to the AT.

19. The mobile telecommunication system of claim 18, wherein the transmitter includes a spreader for spreading the DRI bit with a predetermined orthogonal code.

20. The mobile telecommunication system of claim 15, wherein the predetermined slot is at least two slots before the last slot.

21. The mobile telecommunication system of claim 15, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

22. A method of transmitting data rate control (DRC) information to an access network (AN) in an access terminal (AT) of a second group in a mobile telecommunication system having the AN for transmitting packet data at a requested data rate for a first transmission period having a plurality of slots, and a plurality of ATs divided into a first AT group that includes at least one AT for receiving the packet data for the first transmission period and a second AT group that does not receive the packet data for the first transmission period and is to receive packet data for a second transmission period after the first transmission period, the method comprising the steps of:

detecting ATs of the first group by multiplying a received preamble by a plurality of predetermined orthogonal codes assigned to the plurality of ATs;

detecting the length of the packet data transmitted to the first group of ATs for

the first transmission period from the preamble and checking a last slot of the first transmission period; and

generating the DRC information in a predetermined slot before the last slot and transmitting the DRC information to the AN.

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23. The method of claim 22, wherein the predetermined slot is at least two slots before the last slot.

24. The method of claim 22, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

25. An access terminal (AT) of a second group for transmitting data rate control (DRC) information to an access network (AN) in a mobile telecommunication system having the AN for transmitting packet data at a requested data rate for a first transmission period having a plurality of slots, and a plurality of ATs divided into a first AT group that includes at least one AT for receiving the packet data for the first transmission period and a second AT group that does not receive the packet data for the first transmission period and is to receive packet data for a second transmission period after the first transmission period, comprising:

a multiplier for detecting ATs of the first group by multiplying a received preamble by a plurality of predetermined orthogonal codes assigned to the plurality of ATs;

a packet length detector for detecting the length of the packet data transmitted to the first group of ATs for the first transmission period from the preamble;

a controller for checking a last slot of the first transmission period; and

a transmitter for selectively transmitting the DRC information in a predetermined slot before the last slot to the AN under the control of the controller.

5 26. The AT of claim 25, wherein the predetermined slot is at least two slots before the last slot.

 27. The AT of claim 25, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

 28. The AT of claim 25, further comprising an accumulator for accumulating the multiplication result received from the multiplier and an energy detector for detecting an energy value corresponding to the accumulation result and feeding the energy value to the packet length detector.

15 29. The AT of claim 25, wherein the transmitter comprises a selector for receiving the DRC information and selectively outputting the DRC information under the control of the controller, and a spreader for spreading the output of the selector with a predetermined orthogonal code.

20 30. A method of transmitting data rate control (DRC) information to an access network (AN) in an access terminal (AT) of a first group in a mobile telecommunication system having the AN for transmitting packet data at a requested data rate for a first transmission period having a plurality of slots, and a plurality of ATs

divided into the first AT group that includes at least one AT for receiving the packet data for the first transmission period and a second AT group that does not receive the packet data for the first transmission period and is to receive packet data for a second transmission period after the first transmission period, the method comprising the steps of:

checking a last slot of the first transmission period; and

generating the DRC information in a predetermined slot before the last slot and transmitting the DRC information to the AN.

31. The method of claim 30, wherein the predetermined slot is at least two slots before the last slot.

32. The method of claim 30, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

33. An access terminal (AT) of a first group for transmitting data rate control (DRC) information to an access network (AN) in a mobile telecommunication system having the AN for transmitting packet data at a requested data rate for a first transmission period having a plurality of slots, and a plurality of ATs divided into the first AT group that includes at least one AT for receiving the packet data for the first transmission period and a second AT group that does not receive the packet data for the first transmission period and is to receive packet data for a second transmission period after the first transmission period, comprising:

a preamble detector for detecting a preamble;

a packet length detector for detecting the length of the packet data received for the first transmission period from the preamble;

a controller for checking a last slot of the first transmission period based on the packet length; and

5 a transmitter for selectively transmitting the DRC information in a predetermined slot before the last slot to the AN under the control of the controller.

34. The AT of claim 33, wherein the predetermined slot is at least two slots before the last slot.

35. The AT of claim 33, wherein the predetermined slot indicates the first two slots from the last slot and the last slot.

36. The AT of claim 33, wherein the transmitter comprises a selector for receiving the DRC information and selectively outputting the DRC information under the control of the controller, and a spreader for spreading the output of the selector with a predetermined orthogonal code.

37. An access terminal (AT) in a mobile telecommunication system, comprising:

a multiplier for sequentially multiplying a received preamble by a plurality of orthogonal codes assigned to a plurality of ATs;

a detector for detecting an AT receiving packet data and the length of the packet data from the multiplication result;

a controller for determining the termination period of packet data transmission based on the packet length; and

a transmitter for selectively transmitting data rate control (DRC) information in a predetermined period to an access network (AN) before the termination period.

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38. The AT of claim 37, wherein if the transmission period includes a plurality of slots, the predetermined period is at least two slots before a last slot.

39. The AT of claim 37, wherein if the transmission period includes a plurality of slots, the predetermined period indicates the first two slots from a last slot and the last slot.

40. A method of transmitting a signal to an access network (AN) in a plurality of access terminals (ATs) divided into a first group and a second group, for selectively transmitting data rate control (DRC) information to the AN in a mobile telecommunication system, comprising the steps of:

checking whether the ATs transmit the DRC information;

transmitting reverse rate indicators (RRIs) and pilot signals to the AN in a predetermined first group of slots among a plurality of multiplexed slots by the first group of ATs if the DRC information is not transmitted; and

transmitting RRIs and pilot signals to the AN in a second group of slots by the second group of ATs if the DRC information is not transmitted, the second group of slots being the remaining slots from the plurality of multiplexed slots minus the first group of slots.

41. The method of claim 40, wherein the first group slots are an odd-numbered slots of the multiplexed slots.

5 42. The method of claim 40, wherein the second group slots are an even-numbered slots of the multiplexed slots.

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